



Breaking the Boundaries Between High School and College

How to Scale Success for Low-Income Students

AT A GLANCE

Thousands of low-income students have earned associate's degrees—for free—by the time they finished high school, thanks to early college designs JFF has spread nationally. Now JFF proposes a bold way to scale this proven model—a whole new system specially designed for success in grades 11-14.

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INTRODUCTION

The news is full of growing doubt about the ability of our higher education systems to provide people with paths to a good life. Crushing loan debt, low completion rates, and an uncertain return on investment are among the concerns.¹ Low-income young people, who have the most to gain in earnings from a college degree, fare the worst.

This problem doesn't start or end with higher education. Colleges must find better strategies to support incoming students and help them navigate toward family-supporting careers. But high schools also need to do a better job of ensuring their graduates are prepared for the demands of college before they step on campus. High schools and colleges have both made strides over the past two decades, but progress has been slow.

Since 2002, an innovative school model known as early college high school has been a premier strategy for addressing these challenges, with dramatic results. One of the most successful school innovations of the past 20 years, early college enables all students to earn an associate's degree (or up to two years of transferable college credit)—**for free**—by the time they finish high school. Moreover, the vast majority of their students are low-income and first-generation college goers, the young people our education systems have long struggled to serve well.

Rigorous Research Backs Up the Benefits

On key measures of student success, early college graduates consistently outperform their peers who did not attend early college.² Among the impressive findings across a variety of studies, early college graduates:



Graduate high school at higher rates³



Complete both associate's and bachelor's degrees at significantly higher rates⁴



Are more likely to be employed full time 10 years after entering high school⁵

Further, because they pay nothing to attend these public schools, including for college courses, they save substantially on college tuition.

JFF has been the leading national purveyor of early college for over 15 years. We helped design and develop the first 280 early college high schools nationally, and we have tested creative adaptations to expand their impact.⁶ The most notable has been to build quicker routes to high-skill, well-paying careers in fast-growing

fields such as information technology (IT) and health care through Pathways to Prosperity.⁷

Expansion May Be Reaching a Limit

But we fear expansion may soon hit a ceiling, with only a small fraction of the nation's high school population served. Early college designs are the product of close partnerships between two separate public education systems—K-12 school districts and higher education—which come together in some regions to share responsibility for student success.

However, the bureaucratic boundaries between these two systems in most of the United States still create barriers for most of our nation's youth. As with other promising education innovations, growth is certain to be limited by the policies and practices that perpetuate the systems that created them. Built for a past economic era, they were not designed to accommodate, much less aggressively grow, new approaches needed to prepare students for the ever-changing future of work.

Time for a Bold New Direction

This report provides an honest reckoning of the humbling lessons JFF has learned from our efforts to scale up early college strategies and points to dramatic new directions for the future.

It has become clear that a two-part strategy is needed to further expand postsecondary success for low-income students and other underserved youth across the United States. One approach should continue to strengthen early college partnerships and, ideally, accelerate their growth. At the same time, we advocate a transformation that breaks through the boundaries between K-12 and postsecondary education by building a specially designed, grades 11-14 system for a new level of impact.

THE LONG-LASTING IMPACT OF EARLY COLLEGE

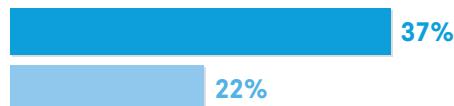
Longitudinal Data from North Carolina⁸

Postsecondary Credentials

Attainment Eight Years After 9th Grade⁹

■ Early College Graduates* ■ Control Group*

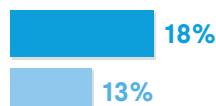
Any postsecondary credential



Associate's degree



Bachelor's degree



College Credits

Average Number Earned by End of 12th Grade¹⁰

■ Early College Students ■ Control Group

All



Underrepresented minority



First generation



Economically disadvantaged



Underprepared



* Figures are the mean outcomes for the early college and control samples.



SCALE SO FAR

Even before definitive research results were available, JFF and our national partners saw promising early signs of success in our own national data collection. We wanted to spread this positive impact to many more students across the country and began exploring opportunities for expansion.

The first 280 schools were deliberately small, about 400 students or less. The intent was to create a community where staff could get to know their students well. Ideally, each student would build trusting relationships with adults and peers—a factor proven to support learning and progress toward graduation.

But most high school students in the United States attend schools much larger than 400 students and were unlikely to leave for a new or revamped smaller school. This made the prospect of scaling up by creating one small school at a time unlikely or, at best, very distant.

Also difficult to scale was the expectation that every student would earn an associate's degree by high school graduation. It is an expensive proposition, requiring extensive coordination, for high schools and colleges

to offer the two-year complement of college courses needed for an associate's degree.

The possibility of adapting the original model in order to spread the benefits to more young people became a necessary alternative to building hundreds more small schools. We wondered whether we could harness the positive effects of dual enrollment, evident from other research, and create early college designs in large schools.

The idea was that some college courses could be incorporated through dual enrollment into a high school of any size. By graduation, students could gain critical momentum toward college completion, even without an associate's degree or two full years of college credit. Taking even just a few courses would help students understand the demands of college-level work and, with structured supports that are part of the early college model, offer a taste of college success. Young people who never considered attending college, for financial or other reasons, could start to see themselves as college students, with a plausible path toward a postsecondary credential.

Spreading Early College Districtwide

As JFF explored this prospect, the superintendent of a small Texas school district on the Mexican border was already implementing such a vision. In 2006, Dr. Daniel P. King of the Hidalgo Independent School District was implementing early college as a larger-school model. Every one of Hidalgo High School's 800 students, virtually all low-income and Latinx youth, received the opportunity and support to take college courses.

King's vision was to design supportive preparatory experiences starting in elementary school so that, by high school, all students had the option to earn substantial college credit on top of the college prep courses required for graduation. All ninth- and tenth-grade students took a focused college-prep academic core and undertook experiences making college an explicit expectation. These included summer academies that prepared students for the statewide college readiness assessment and having access to college-like settings, such as evening access to the library. Students also took Advanced Placement courses.

By 11th grade, Hidalgo students could take college courses in general education or a variety of career and technical education pathways, including health, human services, and skilled trades. The courses were provided through partnerships with South Texas College, Texas State Technical College, and the University of Texas Pan American.

The results were impressive.¹¹ Students graduated from Hidalgo High School at far higher rates than other Texas high schools. And almost all Hidalgo students completed a full complement of college preparatory courses and earned substantially more college credits by graduation than their peers across the state.

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King achieved similar results when he moved a few years later to a much larger Texas school district, Pharr-San Juan-Alamo (PSJA), which was also near the Mexican border. There, King made the early college design the centerpiece of the district's high school transformation strategy. Both the Texas Education Agency, which is the state government's education office, and Educate Texas, a nonprofit advocate for designing and expanding promising educational innovations, took notice. They provided financial assistance and technical support, including JFF-designed professional development for teachers in the Common Instructional Framework, a pedagogical approach created by JFF and used by many early colleges nationally.



Students from the PSJA school district

The work in PSJA accelerated when Congress created the Investing in Innovation (i3) Fund in 2011 to develop, validate, and scale up evidence-based education improvement strategies. Thanks to the strong research base supporting early college high schools, JFF, Educate Texas, and PSJA won an i3 grant in 2012 to continue spreading early college designs to every one of its five high schools in the district. We also added two other partners interested in adapting and validating the early college design within their secondary schools, Brownsville Independent School District in Texas and Denver Public Schools. Along with PSJA, these efforts collectively reached over 30,000 students annually.

After 10 years of incorporating early college throughout PSJA, where King continues as superintendent, the high schools have consistently increased their graduation rates. About 30 percent of high school graduates earn a college credential or degree concurrently with their diploma.¹²

JFF has also partnered with other organizations, including the Middle College National Consortium and NCREST at Columbia University's Teachers College, to prototype districtwide early college designs in a diverse range of settings. These include the Michigan upper peninsula and Bridgeport, Connecticut.

Building Pathways to Prosperity for Grades 9-14+

The districtwide approach was not the only early college design adaptation. The lingering effects of the Great Recession of 2008 raised attention to a perplexing skills gap in the U.S. workforce. While employers had job openings, many unemployed jobseekers could not find well-paid work. Regardless of their experience, they did not possess the skills or credentials sought for the high-skill, well-paying jobs in growing industries such as health care, IT, and advanced manufacturing.

An influential 2011 report issued by the Harvard Graduate School of Education, *Pathways to Prosperity*, argued that closing the skills gap required high schools to pay greater attention to career preparation.¹³ The report urged schools to focus more on putting students on a clear path toward the technical college degrees and credentials needed for high-demand careers and further education, rather than aiming exclusively for bachelor's degrees.

Harvard and JFF partnered to address these issues by creating the Pathways to Prosperity Network of states and regions interested in building systems of such pathways. Starting in high school (and sometimes earlier), the pathways culminated in work-based learning experiences and postsecondary credentials in key industries with high job growth and good wages.

These pathways incorporate early college coursework in technical and general education subjects to prepare them for both college and career, and to accelerate their progress toward a postsecondary credential. It is no coincidence that IBM tested its first, and now nationally popular, P-TECH model in an early college high school in Brooklyn, supporting students to prepare for IT credentials and careers. IBM promised to seriously consider successful graduates as job candidates. Other employers, such as SAP and the Wonderful Company, partnered with JFF, school districts, and colleges to create their own adaptations of grades 9-14+ pathways.

The Pathways to Prosperity Network continues to work with 16 states and regions supporting these school designs.

WHEN REGIONAL COLLEGES LEAD EARLY COLLEGE EXPANSION

Another approach to expanding early college was to see if colleges could take a lead organizing role in regions with several school districts. Given that colleges need to co-construct and co-validate course sequences for high school students, among other critical roles they play in early college partnerships, could they be catalysts for early college expansion in their regions?

Playing a central role could create economies of scale in the design and implementation of dual-credit courses and pathways toward degrees and credentials. Rather than reacting to individual requests from single districts, a college could aggregate and proactively provide resources for many surrounding districts. City University of New York, as well as El Paso Community College and South Texas College in Texas, provided some precedent for this approach. All served as partners on several early college schools in their regions in response to rapidly growing demand by high schools, students, and families.

JFF became interested in testing such an approach as a scaling strategy and found a partner that was thinking along similar lines. Columbus State Community College in Ohio has played an integral role in regional collaborative efforts to improve education and economic development. As a member of the Pathways to Prosperity Network, CSCC had pulled together a regional team to advance grades 9-14+ pathways.

Starting in 2015, CSCC and JFF deepened this partnership to bolster the early college facets of these pathways. The timing allowed the partners to capitalize on the state's new College Credit Plus law, which attempted to grow and strengthen dual enrollment in Ohio, where participation had been low. With support from another federal i3 innovation grant, CSCC partnered with JFF, the region's Education Service Center, and 13 surrounding school districts serving 12,000 students. They designed and implemented pathways, pedagogy, and support systems, in a concerted effort to increase the number of students—low-income youth in particular—completing college courses while in high school.¹⁴



WHAT WE'VE LEARNED

In our efforts to scale the impact of early college, JFF has worked with a variety of K-12, college, and school development partners in many different settings. Our track record is strong. Tens of thousands of students have benefited from early college expansion and Pathways to Prosperity. But our work is unfinished. Even as we and our partners advance these approaches, we continue to learn what it takes to do that most effectively and responsibly.

We encourage educators to apply the lessons outlined below as they seek to improve the implementation of early college designs. There's no need to start from scratch, nor to repeat our early mistakes.

Aim to Replicate Smallness in Schools of All Sizes

A critical component of the original early college high schools, as noted above, was their small size, which enabled students to feel connected to peers and caring staff. Research shows that small schools are more apt to notice when students are struggling and to intervene, which can help keep them on track toward graduation.¹⁵

Later approaches focused on larger schools, in order to spread the benefits to as many young people as possible. Unfortunately, something often got lost in translation. Many of the large schools adopting early college designs put substantial effort into integrating college coursework into the high school experience—a major challenge in itself. But in JFF's work expanding early college to entire districts, our attention to personalizing high school was uneven and unsystematic.

Some schools already used smallness strategies such as creating schools within schools or developing early warning systems to alert staff to students at risk. But these were not an explicit emphasis of our coaching or strategic advising across sites. The gap showed in the unevenness of graduation rates in early college schools across districts, even as they may have been making progress on college course taking outcomes.

Focus on Strong College Partnerships Every Step of the Way

The strength of early college implementation is directly related to the strength of colleges' engagement with high schools in the effort. Colleges must put the college into early college. They certify students' readiness for college coursework and grant credit based on performance. They also ensure that students' exposure to courses and other college resources provides an authentic college experience.

JFF saw greater progress in high schools that had close partnerships with colleges that understood their potential value to help meet their own enrollment and completion goals. In the absence of this shared vision about how early college could advance both mutual and respective goals, school district staff often operated in isolation, or served mainly as advocates for greater access to college courses, rather than as true partners in design and problem solving.

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Treat Early College as a Whole School Design, Not Just a Program

Focusing on the dual enrollment aspects of early college designs, though a unique characteristic of school improvement efforts, sometimes had the unintended effect of goal displacement. The purpose of early college is not to expand dual enrollment, *per se*. It is to use early college experiences as a locus of change for redesigning every aspect of high school to center it around college and career readiness and success for all students.

Accordingly, JFF saw more signs of successful progress in schools and districts that to a greater degree situated their early college efforts as their defining vision for school improvement. The South Texas district PSJA, for example, which stressed college readiness, connection, and completion (captured in its "College Cubed" logo) as its primary goal, saw more consistent and continuous progress.

Other districts, with strategic plans that included expanding dual enrollment, were strong partners in early college expansion but tended to see less consistent progress in and across schools. The connection between dual enrollment and the holistic enterprise of high school redesign was more apt to be lost.

Fresh Starts May Be Faster, but Scale Requires Changing What Exists

The original small early college high schools were audacious in their goal of building new schools from scratch to help underserved students earn an associate's degree along with a high school diploma. That bold aspiration attracted entrepreneurial school leaders and staff who believed in the vision and were inspired to create something new.

At the risk of understating the challenges of new school development, it's worth acknowledging that implementing early college designs in existing schools is a difficult task of a different nature—if not a harder one. It requires transforming systems that are already staffed, structured, and acculturated, often in ways that discourage the changes that early college requires. Transformation entails creating conditions and experiences that trigger mindset shifts in adults and young people about what they are capable of doing and learning.

This dramatic change from the status quo arguably takes longer to translate into the kind of improved outcomes often seen in new school startups. The long time-horizon also runs counter to the short average tenure of visionary leaders trying to shift large systems.



Targeted Policies Promote Growth:

CHALLENGES

In blending high school and college courses of study, support systems, and experiences, early college schools encounter two major kinds of policy challenges: those related to structure and to purpose. The structural challenges stem from the necessary collaboration of two discretely funded and governed public education systems that do not encourage, and sometimes discourage, sharing resources. The challenges relating to purpose stem from the origins of dual enrollment, which was conceived to enable high-achieving high school students to get a head start on college or to augment the limited curricular offerings of rural schools. It was not intended, nor designed, to promote college readiness and success for students of all academic backgrounds, including underserved youth.

Conflicts over funding early college epitomize these challenges. Many states set up dual enrollment as an option for select high school students who wanted to accelerate their education by taking college courses. The state's investment in these students was often deducted from K-12 budgets with the rationale that they were being served instead by colleges.

However, this zero-sum construct did not work for the financial demands of early college designs. Early college schools required K-12 and higher education systems to pool resources to support the success of every student in a co-designed, co-delivered program of study. As a result, JFF and our early college partners promoted funding policies that would "hold harmless" both school and college budgets. Each education system should retain full state funding for dual enrollees rather than parsing a student's time and allocating funds proportionally.

A similar challenge arose with respect to financial aid. Pell Grants, the federal government's largest investment in need-based financial aid for college, cannot be used to support the costs of college attendance for students still enrolled in high school. In high-tuition contexts, where it is difficult for K-12 and higher education partners to cover the full cost of college courses for early college students, tapping early into financial aid would seem sensible given what we know about their higher rates of college completion. Nevertheless, it is prohibited.

SUCCESSES

Though these challenges still exist, much has changed in the past 15 years to ameliorate their impact and to socialize the idea that high schools and colleges ought to work together to create stronger transitions for youth moving between them. Progress has been the product of the growing evidence base behind early college and dual enrollment, and an expanded alliance of advocates promoting them as key strategies for raising rates of college and career readiness and success.¹⁶ State and federal policymakers are increasingly interested in encouraging early college approaches. JFF and our partners, including members of the College in High School Alliance, continue to serve as a source of ideas with a cohesive and consistent voice.

Policy developments that represent substantial progress include those that support the expansion of dual enrollment as well as those that provide direct support for early college redesign. Major milestones include the following:

- The vast majority of states now use dual enrollment as a measure of college and career readiness in their K-12 accountability systems.

- The 2015 Every Student Succeeds Act, the latest reauthorization of the Elementary and Secondary Education Act, includes many provisions encouraging state K-12 systems to promote early college and dual enrollment.
- Several states reward colleges for outcomes achieved with dual enrollees in higher education performance-based funding formulas.
- Numerous states have defined in policy early college schools or dual enrollment criteria that are consistent with early college principles, for the purposes of providing targeted funding or other kinds of state support. (The states include Texas, California, Colorado, North Carolina, and Massachusetts.)

These and other policy developments have contributed significantly to the expansion of early college nationally. A policy experiment also has the potential to help. In 2016, the U.S. Department of Education approved 44 applications from colleges across the country to test the effect of allowing \$20 million in Pell Grants to be used to cover the costs of attendance for dual enrollees participating in programs meeting defined criteria consistent with early college principles.



SCALE FOR THE FUTURE

If there is one overarching lesson from JFF's early college expansion work, it is that improving student outcomes in a wide variety of school contexts requires years of effort, continuous capacity building, and a great deal of trial and error.

A pragmatic view of this reality is that gradual, steady progress is possible in systems where most underserved youth attend high school. It is incumbent upon early college supporters to continue adapting these systems in order to reach more students who can benefit from these approaches. This is tough, drawn-out, but worthwhile work.

An impatient view is that we will never be able to improve existing education systems fast enough to keep up with the accelerating pace of change in our economy, fueled largely by advances in automation and artificial intelligence. Without dramatic change, we will not be able to meet employer demands for workers with ever-growing levels of skill and knowledge, or enable workers to earn a good living.

To keep improving and expanding early college designs, we recommend a dual approach: one that adjusts to overcome

barriers to growth and another that aims to remove the larger forces keeping the barriers in place. In other words, we must treat the root problems rather than just the symptoms. Without going into depth, for illustrative purposes, we recommend opportunities to advance incremental and more fundamental change.

Three Changes for Continuous Improvement

1 Build Networks to Maintain Momentum

Continuing to scale early college high schools presents more adaptive than technical challenges. The work requires shifting adult conceptions of what young people are capable of learning and doing, and adapting schooling practices and structures accordingly. Remaking individual schools takes years, while the typical tenure of education leaders needed to spearhead the change is short by comparison.¹⁷ Establishing and maintaining continuity of focus is essential but challenging under these circumstances.

Networks of early college schools can ease the process by providing affinity groups for educators to keep the focus

on refinement of early college practices and implementation strategies. In the absence of support within local systems, participation in larger networks can reduce feelings of isolation and maintain the momentum of innovators.

Some such networks already exist, including the National Association of Concurrent Enrollment Partnerships, the Middle College National Consortium, and the California Coalition of Early and Middle Colleges. These and others have been important vehicles to focus members on equitable access, improved outcomes, and quality implementation. They would be solid building blocks for building the capacity of individual schools and creating a more systematic expansion of early college designs—perhaps creating a network of networks to increase their reach.

2 Activate Advocates to Expand Supportive Policy

Sustaining change also requires the fuel of supportive policies, financial and human resources, stakeholder engagement, and constituent demand. Champions, both individuals and organizations, were born out of early waves of the early college movement. Many organized alliances to continue advocating for policies that would support and spread early college designs. Many other education reform

organizations have taken a keen interest in expanding dual enrollment and early college.

The newly organized College in High School Alliance aims to harness this interest. Nearly 90 state, national, and local organizations and institutions have signed on to demonstrate their support of dual enrollment and early college policies and programs. JFF and other steering committee members are developing a multiyear strategic plan that specifies how to activate this powerful alliance to continue adoption of practices that incorporate college as a part of high school for more students.

One latent constituency might also be tapped and unleashed: the growing number of high school and college graduates who have benefited from early college and dual enrollment. Over the years, JFF staff have encountered early college alumni who have taken leadership roles in shaping state and federal policy, staffing congressional and legislative offices, conducting education research, implementing best education practices, and organizing alumni support networks on their own college campuses. This group of individuals could become a powerful cadre of advocates if activated and organized.

3 Strengthen High School-College Partnerships to Remove Barriers to Scale

Our K-12 school districts and public college systems were not designed to work together and are governed and financed differently. This creates barriers in sharing and finding resources to bridge the two systems.

One particularly large barrier that some early college partnerships are already grappling with is the difference in faculty qualifications to teach in high school versus college. If not resolved quickly, this will hamper growth of early college designs. School districts seek, and teacher preparation programs produce, teachers with master's degrees in education. But colleges and their accreditors require faculty to have graduate-level degrees and coursework in specific disciplines to teach in corresponding subject areas.

This difference limits the number of college courses that early college partnerships can offer. Colleges often face difficulty finding enough faculty to offer needed courses to traditional college students, let alone high school students. It is rare for high school faculty members to have a master's degree or substantial coursework in a discipline (other than education) who can be designated as adjuncts by colleges to teach college courses to dual enrollees.

Some states have dedicated resources to cover the cost of tuition for high school teachers to take extra courses so that they can qualify to teach college courses, and some districts have developed incentives and strategies of their own to grow their dual credit teaching force. But colleges and universities need to be part of the solution, too. Colleges validate the qualifications of their faculty for accreditors and universities are the providers of master's degrees in disciplines.

JFF has supported and is documenting efforts to develop prototypes by selected district-college-university partnerships to understand prospects for overcoming this challenge.¹⁸ As much as the partners are making progress, we have found that it is slowed by several factors: a lack of resources to provide incentives for teachers to become properly credentialed and the difficulty in persuading university faculty to offer courses in a flexible format, such as online, that busy teachers can easily access.

Strong secondary-postsecondary partnerships could create new teacher preparation routes that meet demands for dual enrollment and create sustainable systems for more current teachers to gain the skills they need to lead these classes. The value propositions for all parties need to be made more clear and more compelling in order for the budding partnerships to gain traction.

TRANSFORMATION FOR A NEW LEVEL OF RESULTS

• REDESIGN GRADES 11–14 •

Early college schools have long demonstrated that blurring the boundaries of secondary and postsecondary education can have a powerfully positive effect on increasing college access and completion toward a range of good careers for low-income youth. If blurring that boundary produces such effects, it's worth considering completely removing the line.

We could create entirely new higher education institutions that span grades 11–14. Explicitly designed to build our nation's talent supply, they would offer high-value credentials, associate's degrees, or transfer to four-year degree programs.

They would not be the product of partnerships between existing K-12 and postsecondary systems—a worthy endeavor that should not cease—but rather entirely new, innovative institutions with self-contained faculty, staff, and students prepared for such environments.

In some cases, they would replace existing high school and college services by combining them along different grade-level boundaries. Attending beyond grade 12 would not necessarily be compulsory. But at no cost to students, starting or completing a postsecondary credential

with high value in the local labor market with the same setting would be highly appealing and a natural next step.

An independent governing board would take responsibility. The schools would have their own budgets from state and local taxes (shifting funding from parts of the existing model to the new one) and would hire instructors specially credentialed to teach there. As a postsecondary institution, their students would be eligible for state and federal financial aid to supplement state and local funding.

New teacher preparation routes would be created that emphasize and optimize the subject-matter, technical, and pedagogical expertise needed to effectively engage older adolescents in deep learning. This would eliminate the current disconnect in credentials required for teaching high school versus higher education.

It would also create a productive conversation among policymakers about how to reconceptualize the teaching force needed to prepare students for the future of work—a future where problem solving, communication, and transferring knowledge to new contexts, among other skills, will be at a premium.



CONCLUSION

Innovations come and go in education, including those that work. They are so often short-lived or remain small in scale because they operate within systems designed for another time that perpetuate what they were originally intended to do. Insofar as they might create some space for improving practice, they do so without transforming core functions.

In this case, American secondary and postsecondary education still presumes an industrial age economy where a postsecondary education is a privilege instead of a prerequisite for economic success. Among innovations, the early college design challenges this assumption. Its success points to the need for more adaptive institutions that we must create to keep up with economic change. We clearly need more efficient routes for young people of all backgrounds to earn postsecondary credentials that lead to family-supporting careers. Yet this work can only advance so far, so fast against systems wired for a time long behind us.

Thus, advocates for early college and dual enrollment would do well not only to pragmatically press on and peck away at perpetual barriers to progress. They also should consider building new education infrastructure altogether that is designed for the needs of our current and future economy.

ACKNOWLEDGMENTS

The learning and ideas reflected in this piece were inspired by the herculean efforts of educators and JFF partner organizations. They are too numerous to mention here, but they have all played essential roles in growing the early college schools and other pathways that integrate college and career experiences into high school. JFF is grateful for their work and allowing us to take such an important journey with them as they positively change students' lives. It is a humbling luxury for JFF to be in a position to reflect on the past 16 years of work in this arena and suggest a new direction in its evolution.

ABOUT JFF

JFF is a national nonprofit that drives transformation in the American workforce and education systems. For 35 years, JFF has led the way in designing innovative and scalable solutions that create access to economic advancement for all. Join us as we build a future that works.

<http://www.jff.org>

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Joel Vargas, EdD, leads the work of JFF's west coast office in Oakland, California, as well as the work of staff nationally focused on improving education and workforce outcomes for low-income youth. He has helped policymakers and intermediaries develop state and federal policies that integrate college and career experiences into high school, and developed strategies to support regional networks that promote conditions for improving economic advancement and learning. He has designed and implemented research and state policy agendas; created policy frameworks, tools, and model legislation; written and edited white papers, research, and national publications; provided technical assistance to state task forces and policy working groups; served national advisory groups; and organized and presented at national conferences. Joel received a bachelor's degree in journalism from Boston University, and a master's and doctoral degree from the Harvard Graduate School of Education.

ENDNOTES

1. Defined in terms of return on investment, the payoff of education depends on which majors, which fields, and which college credentials students choose.
2. Rigorous experimental research conducted on early colleges has found that the model has had positive impacts on a variety of outcomes, including staying in school, progressing in college preparatory courses, graduating from high school, enrolling in college, and graduating from college. Two of these studies meet the highest design standards of the What Works Clearinghouse of the Institute of Education Sciences, which is part of the U.S. Department of Education: Andrea Berger et al., *Early College, Early Success: Early College High School Initiative Impact Study* (Washington, DC: American Institutes for Research, 2013); Julie Edmunds et al., *Smoothing the Transition to Postsecondary Education: The Impact of the Early College Model* (Greensboro, NC: SERVE Center, University of North Carolina at Greensboro, 2015.)
3. Berger et al., *Early College, Early Success*.
4. Richard Haskell, “The Effects of Dual-Credit Enrollment on Underrepresented Students: The Utah Case,” slides presented at the Spring 2018 Conference of the Society for Educational Effectiveness, Washington, DC.
5. Liz Bell, “The Impact of Early Colleges: What Does the Research Say?” www.ednc.org/2019/01/08/the-difference-early-college-makes/?utm_source=EdNC+Subscribers&utm_campaign=985951e576-Daily-Digest&utm_medium=email&utm_term=0_2696365d99-985951e576-254996753; Julie Edmunds et al., *Draft: The Impacts, Costs and Benefits of Early Colleges*, paper presented at the Annual Meeting of the Society for Research on Educational Effectiveness, February 28, 2018, Washington, DC, https://www.sree.org/conferences/2018s/program/download/abstract/2527_intro.pdf; Mengli Song and Kristina Zeiser, *Draft: Longer-Term Impacts of Early College High Schools* (Washington, DC: American Institutes for Research, 2018).
6. The original partners in the Early College High School Initiative with whom JFF worked were: Center for Native Education; Center of Excellence for Leadership of Learning at University of Indianapolis; City University of New York; Communities Foundation of Texas/Texas High School Project; Foundation for

California Community Colleges; Gateway to College National Network; Georgia Board of Regents; KnowledgeWorks Foundation; Middle College National Consortium; National Council of La Raza; North Carolina New Schools/Breakthrough Learning; SECME Inc.; Utah Partnership for Education; and Woodrow Wilson National Fellowship Foundation.

7. The Pathways to Prosperity Network is a collaboration of JFF, the Harvard Graduate School of Education, and member states and regions. For information, see: <https://www.jff.org/what-we-do/impact-stories/pathways-to-prosperity-network/>.
8. All of the data on this page comes from: Liz Bell, "The Impact of Early Colleges: What Does the Research Say?" ednc.org, January 8, 2019, https://www.ednc.org/2019/01/08/the-difference-early-college-makes/?utm_source=EdNC+Subscribers&utm_campaign=985951e576-Daily_Digest&utm_medium=email&utm_term=0_2696365d99-985951e576-254996753. The article focuses on research on the effectiveness of early college by Julie Edmunds, program director for secondary school reform at SERVE Center at University of North Carolina at Greensboro. With multiple federal grants, Edmunds and her team have been following 4,000 students from 19 early colleges in North Carolina for 13 years. All students eligible for the study were randomly assigned through a lottery to have the opportunity to enroll in early college high school or not.
9. Numbers are rounded to the nearest percentage point. Researchers consider postsecondary attainment eight years after students enter 9th grade as a particularly significant measure because students in the control group, who did not attend early college, typically had four years after high school to catch up to early college graduates.
10. Credits are rounded to the nearest whole number.
11. Thad Nodine, *College Success for All: How the Hidalgo Independent School District is Adopting Early College as a District-wide Strategy* (Boston: Jobs for the Future, 2010), https://jfforg-prime.s3.amazonaws.com/media/documents/college_success_for_all.pdf.
12. Joel Vargas, *Sharing Responsibility for College Success: A Model Partnership Moves Students to Diplomas and Degrees* (Boston: Jobs for the Future, 2014).
13. William Symonds, Robert Schwartz, and Ronald Ferguson, *Pathways to Prosperity: Meeting the Challenge of*

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14. Sarah Hooker, *Forging Regional Connections: The Role of a Community College in High School Transformation* (Boston: JFF, 2018), <https://www.jff.org/resources/forging-regional-connections-role-community-college-high-school-transformation/>.
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16. College in High School Alliance, 2019, <https://www.collegeinhighschool.org/>.
17. Larry Gordon, “Survey finds worrisome short tenures for community college chiefs,” *EdSource*, August 30, 2016, <https://edsouce.org/2016/survey-finds-worrisome-short-tenures-for-community-college-chiefs/568738>; Nell Gluckman, “For Community-College Presidents, a Challenging Role Yields High Turnover,” *The Chronicle of Higher Education*, March 29, 2017, <https://www.chronicle.com/article/For-Community-College/239624>; Denisa Superville, “How Long Do Big-City Superintendents Typically Stick Around?”, *Education Week*, May 8, 2018, https://blogs.edweek.org/edweek/District_Dossier/2018/05/the_average_large_city_superintendent_sticks_around_longer_than_you_think.html.
18. Sarah Hooker, *Addressing Major Barriers to Dual Enrollment: Strategies to Staff Up and Scale Up* (Boston: JFF, 2019), <https://www.jff.org/resources/addressing-major-barrier-dual-enrollment-strategies-staff-and-scale/>



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